In the Claims:

1. (Currently amended) A method for producing a magnetorheological fluid, the method comprising the steps of:

exposing a first portion of ferromagnetic particles to a nitrogen-rich gas environment for an interval sufficient to impart a nitrogen-rich surface on the first portion of ferromagnetic particles;

integrating the first portion of ferromagnetic particles with a second portion of ferromagnetic particles; and

integrating the first and second portions of ferromagnetic particles ~~having a nitrogen rich surface~~ into a magnetorheological carrier fluid.

2. (Original) The method of claim 1 wherein the ferromagnetic particles are composed of an iron material exhibiting magnetorheological characteristics.

3. (Previously Presented) The method of claim 2 wherein the ferromagnetic particles include at least one of carbonyl iron, reduced carbonyl iron, crushed iron, milled iron, melt sprayed iron, low carbon steel, silicon steel, and iron alloys.

4. (Currently amended) The method of claim 1 wherein the nitrogen-rich gas environment comprises a major portion of nitrogen gas and a minor portion of a gaseous material inert to interaction with the ferromagnetic particles.

5. (Currently amended) The method of claim 1 wherein the ~~ferromagnetic particles are composed of a~~ first portion of ferromagnetic particles has ~~having~~ a first average size distribution and a the second portion of ferromagnetic particles has ~~having~~ a second average size distribution, wherein the average size distribution of the ~~first~~ second portion of the ferromagnetic particles is greater than the average size distribution of the ~~second~~ first portion of the ferromagnetic particles.

6. (Currently amended) The method of claim 5 wherein the average size distribution of the ~~first~~ second portion of the ferromagnetic particles is between 5 and 30 microns.

7. (Currently amended) The method of claim 5 wherein the average size distribution of the ~~second~~ first portion of the ferromagnetic particles is between 1 and 10 microns.

8. (Currently amended) The method of claim 1 wherein the first portion of ferromagnetic particles ~~exposed to the nitrogen gas environment include~~ includes particles having an average particle size distribution between 1 and 10 microns.

9. (Cancelled)

10. (Previously Presented) A method for producing a magnetorheological fluid comprising the steps of:

exposing ferromagnetic particles to a nitrogen-rich environment for an interval sufficient to impart a nitrogen-rich surface on the ferromagnetic particles; and

integrating the ferromagnetic particles having a nitrogen-rich surface into a magnetorheological carrier fluid;

wherein the ferromagnetic particles exposed to the nitrogen-rich environment include particles having an average particle size distribution between 1 and 10 microns;

and wherein the ferromagnetic particles having an average particle size distribution between 1 and 10 microns are integrated with larger size ferromagnetic particles after exposure to the nitrogen-rich environment.

11. (Currently amended) The method of claim 1 wherein the first portion of ferromagnetic particles is ~~are~~ maintained in the nitrogen-rich ~~gas~~ environment at a temperature sufficient to initiate nitriding on the surface of the ferromagnetic particles.

12. (Currently amended) A method for reducing oxidation of a portion of ferromagnetic particles in a magnetorheological fluid comprising the step of:

exposing a first portion of ferromagnetic particles to a nitrogen gas environment for an interval sufficient to impart a nitrogen-rich surface on the first portion of ferromagnetic particles prior to admixing the first portion of ferromagnetic particles with a second portion of

ferromagnetic particles and prior to introduction of the ferromagnetic particles into the magnetorheological fluid.

13. (Previously Presented) The method of claim 12 wherein the ferromagnetic particles are composed of an iron material which when integrated with a fluid material will yield a magnetorheological fluid exhibiting at least some magnetorheological characteristics.

14. (Previously Presented) The method of claim 13 wherein the ferromagnetic particles include at least one of carbonyl iron, reduced carbonyl iron, potato iron, crushed iron, milled iron, melt-sprayed iron, and iron alloys.

15. (Currently amended) The method of claim 12 wherein the first portion of ferromagnetic particles exposed to the nitrogen gas environment ~~have~~ has an average particle size distribution between about 1 and 10 microns.

16. (Previously Presented) A method for reducing oxidation of ferromagnetic particles in a magnetorheological fluid comprising the step of:

exposing ferromagnetic particles to a nitrogen-rich environment for an interval sufficient to impart a nitrogen-rich surface on the ferromagnetic particles prior to introduction of the ferromagnetic particles into the magnetorheological fluid;

wherein the ferromagnetic particles exposed to the nitrogen-rich environment have an average particle size distribution between about 1 and 10 microns;

and wherein the ferromagnetic particles having an average particle size distribution in a range between 1 and 10 microns are admixed with ferromagnetic particles having an average particle size distribution in a range between about 5 and 30 microns, the admixture occurring after the ferromagnetic particles having an average particle size in a range between 1 and 10 microns have been exposed to the nitrogen-rich environment.

17. (Previously Presented) A method for reducing oxidation of ferromagnetic particles in a magnetorheological fluid comprising the step of:

exposing ferromagnetic particles to a nitrogen-rich environment for an interval sufficient to impart a nitrogen-rich surface on the ferromagnetic particles prior to introduction of the ferromagnetic particles into the magnetorheological fluid;

wherein the ferromagnetic particles exposed to the nitrogen-rich environment have an average particle size distribution between about 1 and 10 microns;

and wherein the ferromagnetic particles having an average particle size distribution between about 1 and about 10 microns are admixed with ferromagnetic particles having an average particle size distribution in a range greater than 10 microns, the admixture occurring after the ferromagnetic particles having an average particle size between about 1 and 10 microns have been exposed to the nitrogen-rich environment.

18. (Currently amended) A method for imparting an oxidation resistant surface to a portion of magnetic metallic particles having an outwardly oriented surface and integrated into a magnetorheological fluid, the method comprising the steps of:

introducing a first portion of magnetic particles to a nitrogen gas environment;

elevating an ambient temperature of the first portion of particles and nitrogen gas environment to a temperature which facilitates uptake of nitrogen and formation of nitrogen-containing compounds proximate to the surface of the first portion of magnetic particles; ~~and~~

maintaining the first portion of magnetic metallic particles in the nitrogen gas environment for an interval sufficient to produce a nitrogen-rich surface coating on the first portion of the particles;

admixing the first portion of particles with a second portion of magnetic particles after the first portion of magnetic particles have a nitrogen-rich surface; and

integrating the first and second portions of particles into a magnetorheological fluid.

19. (Original) The method of claim 18 wherein the magnetic metallic particles include at least one of carbonyl iron, reduced carbonyl iron, crushed iron, milled iron, melt-sprayed iron, and iron alloys.

20. (Currently amended) The method of claim 18 wherein the first portion of particles ~~have~~ has an average size distribution in a range between 1 and 10 microns.

21. (Currently amended) The method of claim 18 wherein the ~~particles are composed of at least two classes of particles, a~~ first ~~class~~ portion of particles has ~~having~~ an average size distribution in a range between 1 and 10 microns, and a the second portion of particles has ~~class having~~ an average size distribution between 5 and 30 microns.

22. (Previously Presented) A magnetorheological fluid comprising:

first ferromagnetic particles having an average particle size in a range between 1 and 10 microns;

second ferromagnetic particles having an average particle size in a range between 5 and 30 microns; and

a carrier fluid, wherein one of the first and second ferromagnetic particles have a surface characterized by nitrogen-containing compounds associated therewith.

23. (Previously Presented) The magnetorheological fluid of claim 22 wherein the first particles are composed of at least one of carbonyl iron, reduced carbonyl iron, crushed iron, potato iron, milled iron, melt-sprayed iron, and iron alloys.

24. (Original) The magnetorheological fluid of claim 22 wherein the second particles are composed of at least one of carbonyl iron, reduced carbonyl iron, crushed iron, milled iron, melt-sprayed iron, and iron alloys.

25. (Original) The magnetorheological fluid of claim 23 wherein the second particles have a surface resistant to oxidation, the surface characterized by nitrogen-containing compounds associated therewith.

26. (Previously presented) The method as defined in claim 10 wherein the ferromagnetic particles are composed of at least one of carbonyl iron, reduced carbonyl iron, crushed iron, milled iron, melt-sprayed iron, low carbon steel, silicon steel, potato iron, iron alloys, and mixtures thereof.

27. (Previously presented) The method as defined in claim 16 wherein the ferromagnetic particles are composed of at least one of carbonyl iron, reduced carbonyl iron, crushed iron, milled iron, melt-sprayed iron, low carbon steel, silicon steel, potato iron, iron alloys, and mixtures thereof.

28. (Previously presented) The method as defined in claim 17 wherein the ferromagnetic particles are composed of at least one of carbonyl iron, reduced carbonyl iron, crushed iron, milled iron, melt-sprayed iron, low carbon steel, silicon steel, potato iron, iron alloys, and mixtures thereof.

29. (Currently amended) A method for producing a magnetorheological fluid, the method comprising the steps of:

exposing ferromagnetic particles to a nitrogen gas environment for an interval sufficient to impart a nitrogen-rich surface on the ferromagnetic particles. ~~The method as defined in claim 1 wherein~~ the ferromagnetic particles ~~are~~ composed of a first portion of ferromagnetic particles having a first average size distribution and a second portion of ferromagnetic particles having a second average size distribution, wherein the average size distribution of the first portion of the ferromagnetic particles is greater than the average size distribution of the second portion of the ferromagnetic particles, wherein the second portion of the ferromagnetic particles is exposed to the nitrogen gas environment for an interval sufficient to impart a nitrogen-rich surface on the second portion of the ferromagnetic particles~~,~~;

integrating the ferromagnetic particles having a nitrogen-rich surface into a magnetorheological carrier fluid; and

~~wherein the method further comprises~~ integrating the first portion of the ferromagnetic particles with the second portion of the ferromagnetic particles after exposure to the nitrogen gas environment and prior to the integration into the magnetorheological carrier fluid.

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